WHAT IS CLAIMED IS:

1. A cathode for an electron tube, comprising:

a metal base; and

an electron-emitting material layer coated on the metal base, said electron-emitting material layer comprising a needle-shaped conductive material.

2. The cathode of claim 1, further comprised of said needle-shaped conductive material being at least one material selected from the group consisting essentially of carbon, indium tin oxide, nickel, magnesium, rhenium, molybdenum and platinum.

3. The cathode of claim 1, further comprised of said needle-shaped conductive material being a carbonaceous material.

4. The cathode of claim 3, further comprised of said carbonaceous material being selected from the group consisting essentially of a carbon nanotube, carbon fiber and graphite fiber.

5. The cathode of claim 3, further comprised of said carbonaceous material being a carbon nanotube.

6. The cathode of claim 1, further comprised of said needle-shaped conductive material

in the electron-emitting material layer being in the range of 0.01 to 30% by weight based on the total weight of said electron-emitting material.

7. The cathode of claim 1, further comprised of said needle-shaped conductive material being a carbonaceous material, said needle-shaped conductive material being in the range of 0.01 to 30% by weight based on the total weight of said electron-emitting material layer, and the thickness of said electron-emitting material layer being in the range of 30 to 80 μm.

8. The cathode of claim 1, further comprised of said electron-emitting material layer being coated on the metal base by one method selected from the group consisting essentially of printing, electrodeposition and painting.

9. The cathode of claim 1, further comprised of said electron-emitting material layer being coated on said metal base by a screen-printing.

10. A cathode for an electron tube, comprising:

a metal base; and

an electron-emitting material layer coated on the metal base, said electron-emitting material layer comprising a needle-shaped conductive material and a surface roughness corresponding to a distance between the highest point and the lowest point on the surface of the electron-emitting material layer being less than 10 microns.

11. The cathode of claim 10, wherein said cathode is an oxide cathode.

12. The cathode of claim 11, further comprised of said needle-shaped conductive material being at least one material selected from the group consisting essentially of carbon, indium tin oxide, nickel, magnesium, rhenium, molybdenum and platinum.

13. The cathode of claim 11, further comprised of said needle-shaped conductive material being a carbonaceous material.

14. The cathode of claim 13, further comprised of said carbonaceous material being selected from the group consisting essentially of a carbon nanotube, carbon fiber and graphite fiber.

15. The cathode of claim 13, further comprised of said carbonaceous material being a carbon nanotube.

16. The cathode of claim 11, further comprised of said needle-shaped conductive material in the electron-emitting material layer being in the range of 0.01 to 30% by weight based on the total weight of said electron-emitting material.

17. The cathode of claim 11, further comprised of said needle-shaped conductive material

being a carbonaceous material, said needle-shaped conductive material being in the range of 0.01 to 30% by weight based on the total weight of said electron-emitting material layer, and the thickness of said electron-emitting material layer being in the range of 30 to 80 μm.

18. The cathode of claim 11, further comprised of said electron-emitting material layer being coated on the metal base by one method selected from the group consisting essentially of printing, electrodeposition and painting.

19. The cathode of claim 11, further comprised of said electron-emitting material layer being coated on said metal base by a screen-printing.

20. The cathode of claim 11, further comprising a metal layer including nickel grains having sizes smaller than the grains in said metal base, said metal layer formed between said metal base and said electron-emitting material layer.

21. The cathode of claim 20, further comprised of said metal layer further including at least one metal selected from the group consisting essentially of aluminum (Al), tungsten (W), tantalum (Ta), chromium (Cr), magnesium (Mg), silicon (Si) and zirconium (Zr).

22. The cathode of claim 20, further comprised of the thickness of said metal layer being in the range of 1 to 30 μm.

23. An oxide cathode for an electron tube, comprising:

a metal base; and

an electron-emitting material layer coated on the metal base, said electron-emitting material layer comprising a needle-shaped conductive material.

24. The cathode of claim 23, further comprised of said needle-shaped conductive material being at least one material selected from the group consisting essentially of carbon, indium tin oxide, nickel, magnesium, rhenium, molybdenum and platinum.

25. The cathode of claim 23, further comprised of said needle-shaped conductive material being a carbonaceous material.

26. The cathode of claim 25, further comprised of said carbonaceous material being selected from the group consisting essentially of a carbon nanotube, carbon fiber and graphite fiber.

27. The cathode of claim 25, further comprised of said carbonaceous material being a carbon nanotube.

28. The cathode of claim 23, further comprised of said needle-shaped conductive material in the electron-emitting material layer being in the range of 0.01 to 30% by weight based on the total

weight of said electron-emitting material.

29. The cathode of claim 23, further comprised of said needle-shaped conductive material being a carbonaceous material, said needle-shaped conductive material being in the range of 0.01 to 30% by weight based on the total weight of said electron-emitting material layer, and the thickness of said electron-emitting material layer being in the range of 30 to 80 μm.

30. The cathode of claim 23, further comprised of said electron-emitting material layer being coated on the metal base by one method selected from the group consisting essentially of printing, electrodeposition and painting.

31. The cathode of claim 23, further comprised of said electron-emitting material layer being coated on said metal base by a screen-printing.

32. The cathode of claim 23, further comprising a metal layer including nickel grains having sizes smaller than the grains in said metal base, said metal layer formed between said metal base and said electron-emitting material layer.

33. The cathode of claim 32, further comprised of said metal layer further including at least one metal selected from the group consisting essentially of aluminum (Al), tungsten (W), tantalum (Ta), chromium (Cr), magnesium (Mg), silicon (Si) and zirconium (Zr).

34. The cathode of claim 32, further comprised of the thickness of said metal layer being in the range of 1 to 30μm.